REMARKS

Applicants appreciate the Examiner's statement that Claim 24 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Applicants have now done so and request that this claim be allowed. Applicants are also adding new Claim 28 which is Claim 24 written in independent form without the limitation of intervening claim 15. It is respectfully submitted that this claim is also allowable and should now be allowed.

Applicants will address each of the Examiner's remaining rejections in the order in which they appear in the Office Action.

Claim Rejections - 35 USC §102

In the Office Action, the Examiner rejects Claims 12, 15-17 and 25-27 under 35 USC §102(e) as being anticipated by Thome (US 5,800,486). This rejection is respectfully traversed.

The present application is directed to a catheter for the delivery of radiation treating elements to a selected location within the intraluminal passageways. With such a device, there is a heightened concern for safety to prevent any unintended exposure of either the patient or the user to radioactivity. Accordingly, the present application is directed to safeguards to protect the patient and user from unintended or prolonged exposure to radiation.

One of these safeguards is a catheter having first, second, third and fourth lumens, as recited in Claim 12 of the present application. As explained in the specification (e.g. page 5, lns. 21-28; page 26, ln. 12- page 27, ln. 15) and shown in the drawings (see e.g. Figs. 23A, 23B and 24) of the present application, one lumen is sized to slidingly receive the treating element for advancing the treating element from the proximal end of the catheter to the distal end of the catheter (and to prevent

the treating element from exiting the first lumen to outside the catheter at the distal end of the catheter) and for return of the treating elements to the proximal end of the catheter and out of the patient. By having one lumen for advancing the treating elements from the proximal end of the catheter to the treatment site at the distal end of the catheter and retrieval of the treating elements, the amount of radiation given to the patient, where the radiation treatment occurs and the length of exposure of the radiation to the treatment site (i.e. the selected location) can be controlled.

However, it is desirable to have the radioactive treating elements get to the distal end of the catheter, and the treatment area, as quickly as possible to minimize exposure of healthy tissue to radiation. Further, once the desired period for treatment (and exposure to radiation) is completed, it is highly desirable to remove the treating elements from the patient's body as quickly as possible. Accordingly, the catheter of the present application was designed with two return lumens in fluid communication with the first lumen at the distal end thereof, to quickly force the treating elements from the proximal to the distal end for treatment, and to force the treating elements from the distal end of the catheter to the proximal end of the catheter, which is outside the patient's body, once treatment is finished (see e.g. 150 in Figs. 23A and 23B and 158 in Fig. 24; page 26, ln. 12 - page 27, ln. 15). In this way, the treating elements are quickly moved to the treatment area and removed from the body, limiting the patient's exposure to the radiation, especially at non-treatment or non-selected locations. There is also a fourth lumen open at the distal end and sized to receive a guidewire.

In contrast to the catheter of the present application, Thome is directed to a catheter with a microwave antenna and cooling lumens to carry heat away from tissues surrounding the catheter and to absorb microwave energy radiating from the microwave antenna. The catheter has two cooling intake lumens 64A, 64B and two exhaust lumens 66A and 66B. While the Examiner contends that

fluid flow is capable in both directions for these lumens, there is nothing in Thome which discloses this feature. In fact, Thome seems to be set up to have fluid flow in only one direction and has no reason to reverse flow. Further, unlike the claimed catheter, Thome has two intake lumens coupled to two return lumens, as opposed to a single lumen for the treating elements (in order to keep them contained and under control) and two fluid lumens for controlling the movement of the treating elements in the first lumen.

Further, Thome appears to disclose eight lumens. Finally, there appears to be no disclosure of a guidewire lumen.

Accordingly, while Applicants traverse this rejection for at least the reasons discussed above, in order to advance the prosecution of this application, Applicants are amending independent Claim 12 to recite "first, second, third and fourth lumens only, and free of any additional lumens." As Thome discloses eight lumens, it clearly does not disclose or suggest a catheter with this claimed feature.

Therefore, Thome fails to disclose or suggest the catheter of independent Claim 12 or those claims dependent thereon, and these claims are patentable thereover. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claim Rejections - 35 USC §103

Claims 13 and 14

The Examiner also rejects Claims 13 and 14 under 35 USC §103(a) as being unpatentable over Thome in view of Bradshaw et al. (US 5,643,171). This rejection is also respectfully traversed.

These claims are dependent claims. Therefore, for at least the reasons discussed above for independent Claim 12, these dependent claims are also patentable over the cited references.

Accordingly, it is respectfully requested that this rejection be withdrawn.

Conclusion

Therefore, for at least the above-stated reasons, it is respectfully submitted that the present application is in a condition for allowance and should be allowed.

If any fee is due for this amendment or the new claim, please charge our deposit account 50/1039.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

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